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| 10/081,122      | 02/22/2002  | Bryan P. Riddiford   | DP-305565 (7500/87) | 8542             |

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EXAMINER

WILLIAMS, THOMAS J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3683

DATE MAILED: 01/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/081,122

Applicant(s)

RIDDIFORD ET AL.

Examiner

Thomas J. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 13-20 is/are rejected.
- 7) ☒ Claim(s) 5-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Acknowledgment is made in the receipt of the information disclosure statement filed February 22, 2002 and the declaration filed April 12, 2002.

#### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 14 recites the limitation "the electrical force signal" in line 1. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 14 recites the limitation "the moving element" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 15-20 are rejected due to their dependence on claim 14.

#### *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1- rejected under 35 U.S.C. 102(b) as being anticipated by US 5,106,171 to Leppek et al.

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Re-claim 1, Leppek et al. discloses a force generating apparatus for providing a force to a moving element based upon receipt of an electrical force signal, comprising: a force applying element 20 defining a hydraulic cylinder and including a force applying piston (not illustrated) for applying a force to the moving element 22 in response to increasing or decreasing fluid pressure within the cylinder, see column 3 lines 50-55; an actuator 18 defining an apply chamber 42 and includes an actuator piston 38 within the apply chamber, the piston is coupled to an actuator piston drive element 34/36 for increasing and decreasing a fluid pressure in the apply chamber, the apply chamber is fluidically coupled to the cylinder and force applying piston of the force applying element for actuation thereof (via conduit 16) by increasing or decreasing chamber pressure of the fluid in the apply chamber and communicating the increased or decreased chamber pressure to the cylinder in response to the electrical force signal, column 4 lines 26-68; during a rapid pressure reduction, brought on by a severe lock situation, a controller 28 will modify the value of the electrical force signal sent to the actuator to limit the rate at which the chamber pressure in the apply chamber is reduced during a fast mode release or rapid pressure reduction event. This type of event is described in column 10 lines 38-68 to column 11 lines 1-5, in which the brake pressure is released in a step by step mode commanded by a small release current (column 11 lines 1-2).

Re-claims 2 and 3, the force applying element is illustrated as a caliper and rotor combination. The examiner takes official notice that the interchangeability of shoe and drum brakes for caliper and rotor brakes is well known in the art.

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Re-claim 4, the actuator piston drive element of the actuator 18 includes a motor 30 responsive to the electrical force signal and a gear-ball screw assembly that couples the actuator to the motor, see column 4 lines 6-14.

Re-claim 13, the controller includes a microprocessor and storage capabilities and is considered to have a means for storing values of electrical force signals sent to the motor. These values are normally stored for future reference by the microprocessor.

Re-claim 14, Leppek et al. discloses a method of modifying an electrical force signal to an actuator 18 of a force generating apparatus 20, the force generating apparatus has a force applying element defined by a hydraulic cylinder and piston coupled to a moving element 22 for applying the force to the moving element in response to changing fluid pressure within the cylinder, the force generating apparatus is provided with an actuator 18 defining an apply chamber and an actuator piston 38 coupled to actuator piston drive element for increasing and decreasing a fluid pressure in the apply chamber, the apply chamber is fluidically coupled to the cylinder and force applying piston of the force applying element for actuation by selectively increasing and decreasing fluid pressure in the apply chamber and cylinder in response to the electrical force signal from a controller 28, the method includes the steps of: receiving a desired force actuation signal at the controller, step 82; determining when the force generating apparatus is in a fast mode release, step 98; modifying the electrical force signal to limit the rate at which fluid pressure in the apply chamber is reduced during fast mode release, at step 96 the signal is modified to KM2; the modified signal is sent to the actuator.

Re-claim 18, the modified electrical force signal is a reduced value of the electrical force signal.

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Re-claim 19, the electrical force signal is applied as unmodified when not operating in the fast mode release, such as at step 88 with the signal as KM1.

Re-claim 20, the modified values are stored in the controller as a reference.

***Allowable Subject Matter***

8. Claims 5-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 15-17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spadafora et al. teaches an actuator having motor current control. Dimatteo et al. teaches an actuator having motor current control and a pressure sensor attached to an apply chamber. Hageman et al. teaches a brake system having a solenoid valve positioned between and actuator and force applying element.

11. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is (703) 305-1346. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder, can be reached at (703) 308-3421. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

TJW

January 21, 2003

Thomas Williams  
AU 3683  
1-21-03  
**THOMAS WILLIAMS**  
**PATENT EXAMINER**